

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
DALLAS DIVISION

FRACTUS, S.A.

Plaintiff,

v.

ZTE CORPORATION,  
ZTE (USA), INC., and  
ZTE (TX), INC.,

Defendants.

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CIVIL ACTION NO.  
3:18-CV-2838-K

MEMORANDUM OPINION AND ORDER

Before the Court is the Defendants' Motion for Partial Summary Judgment (Doc. Nos. 190 & 197) (the "Motion") (The same motion was filed twice, once public and once under seal). After considering the briefs, the arguments of the parties, the evidence of record, and the applicable law, the Court **DENIES** the Motion. The Court also issues a clarification of a claim construction dispute implicated by the parties in their briefing of the Motion.

**A. Background.**

This is a patent infringement case in which the Plaintiff, Fractus, S.A. ("Fractus"), alleges that the Defendants, ZTE Corporation, ZTE (USA), Inc., and ZTE (TX), Inc. (collectively "ZTE"), have infringed a number of patents owned by Fractus. The patents in suit all relate to the invention of what the patents call "multilevel" antennas. The case originated in the Eastern District of Texas, Marshall Division and

was assigned to the Honorable Rodney Gilstrap. The Defendants moved that Court to transfer venue to the Northern District of Texas, which Judge Gilstrap granted. Before venue was transferred, the parties filed claim construction briefing in which the parties presented a number of patent claim phrases that the parties asserted required construction. Judge Gilstrap issued a Memorandum Opinion and Order (Doc. No. 93) which construed the disputed terms and phrases. This Court reviewed the claim constructions of Judge Gilstrap and adopted all agreed claim constructions and all but one disputed claim terms and phrases. Amended *Markman* Order (Doc. No. 159). The construction of the one disputed claim phrase that was not adopted by this Court was modified by the Court. *Id.* That construction is not relevant to the issues presented in the Motion.

#### **B. The Motion.**

In the Motion, ZTE raises several grounds as to why it is entitled to summary judgment of non-infringement for several accused devices. Three of the arguments assert that Fractus has not properly applied the construed terms of the patent claims correctly to the accused devices. According to ZTE, since Fractus' experts incorrectly applied these constructions, Fractus has no credible evidence to prove that certain accused devices meet these limitations. ZTE also argues that it is entitled to summary judgment on the issue of infringement under the doctrine of equivalents because Fractus has failed to present credible evidence to prove infringement on that ground.

Regarding ZTE's first asserted misapplication of a claim construction, ZTE asserts that it is entitled to summary judgment of non-infringement for 56 accused devices because these devices cannot be shown to meet the "multilevel structure," "structure for multi-band antenna," or "antenna element having a multi-band behavior" limitation of the asserted patent claims. Each asserted claim contains one of these limitations. The Court construed each of these phrases to mean:

A structure for an antenna useable at multiple frequency bands with at least two levels of detail, wherein one level of detail makes up another level. These levels of detail are composed of polygons (polyhedrons) of the same type with the same number of sides (faces) wherein most of the polygons (polyhedrons) are clearly visible and individually distinguishable and most of the polygons (polyhedrons) having an area of contact, intersection or interconnection with other elements (polygons or polyhedrons) that is less than 50% of the perimeter or area.

Amended *Markman* Order (Doc. No. 159). The dispute raised in the Motion is only over a portion of this construction, which is "polygons (polyhedrons) of the same type with the same number of sides (faces)."

ZTE argues that the "same type" requirement of this portion of the construction means that the polygons must all be triangles, squares, rectangles, rhombi, etc.. The Plaintiff and the Plaintiff's expert assign a different meaning to "same type," which essentially is that polygons having the same number of sides are of the same type regardless of whether or not they could otherwise be classified as different types. Under Fractus' understanding of "same type," a square and a rectangle would be the same type because they both have four sides. Under ZTE's understanding of "same type," a

square and rectangle would not be the same type. Even though they both have the same number of sides, they are different types of four-sided polygons.

When applied to the accused devices, these two different understandings of the meaning of “same type” result in very different conclusions on whether or not these accused devices meet this limitation. If they do not meet this limitation, they do not infringe the asserted claims. Fractus’ expert applied the understanding that same type means same number of sides to the accused devices. In this analysis, for 56 accused devices, Fractus’ expert identified a number of four-sided polygons in each antenna. But these four-sided polygons were not all squares, all rhombi, or all rectangles, etc. Instead they were combinations of different four-sided polygons.

According to the ZTE, this cannot be used to prove that these antennas infringe the asserted claims of the patents in suit because the polygons must all be squares, all rhombi, or all rectangles, etc.. For this reason, ZTE asserts that it is entitled to summary judgment on the issue of infringement for these 56 accused because there is no evidence to prove infringement.

In the Motion, ZTE also asserts that the Plaintiff’s expert also misapplied the constructions of “geometric element” and “polygon.” According to ZTE, this entitles ZTE to summary judgment on the issue of non-infringement because Fractus cannot prove that any of the accused devices meet these required limitations of the asserted claims. The Court construed “geometric element” and “polygon” to mean "a closed plane figure bounded by straight sides, further including circles and ellipses, where a

portion of a circle or ellipse is counted as one side." Amended *Markman* Order (Doc. No. 159). ZTE argues that Fractus' expert misapplied this construction when analyzing the accused devices because he identified polygons in antennas of the accused devices that were not "closed plane figures." Instead, the portions of the antennas identified contained curved surfaces, some of which are relatively sharp bends and some of which are slight or gradual bends. ZTE argues that since these are not flat, they are not "planer," as required by the claim construction. According ZTE, since they are not planer, they do not infringe the claims because they do not meet this claim limitation.

Fractus responds that this issue cannot be resolved on summary judgment because the issue raised by ZTE is an issue of fact and not an issue of law. According to Fractus, the issue is whether or not the identified polygons are sufficiently flat to be considered planer by a person of ordinary skill in the art. Fractus argues that its expert provided evidence as to how both the antennas with sharp bends and those with gradual curves could be considered to be planer by a person of ordinary skill in the art. For example, for the antennas having sharp bends, this portion of the antenna was divided into different polygons with each being planer and joined at the bent edge. For the antennas having gradual curves, the expert asserted that while these areas were not perfectly flat, they were not curved enough to not be considered planer and this curve did not affect the performance of the antenna. According to Fractus, this is a fact issue that prevents the Court from granting summary judgment on this issue.

ZTE also argues that Fractus' expert misapplied the construction of "monopole configuration," which is used in claims 17 and 19 of the '617 patent. According to ZTE, this entitles them to summary judgment of non-infringement of the asserted claims of the '617 patent. The Court construed "monopole configuration" to mean "an antenna comprising a radiating element and a ground plane, wherein a practical application, the ground plane is not infinite, and further where the antenna would produce a radiation pattern approximating that of an electric dipole in the half-space above the ground plane if the ground plane was infinite." Amended *Markman* Order (Doc. No. 159).

ZTE argues that the Fractus' expert misapplied this construction in the analysis of the antennas of the accused devices because the expert did not test the antennas in the configuration in which they are installed in the phones. Instead, Fractus' expert rotated the antennas before testing them. ZTE argues that since the antennas were modified before they were tested to see if they meet the monopole configuration limitation, Fractus' expert's opinion that the antennas are monopole antennas is not evidence that the accused devices actually meet this limitation because the accused devices must meet the limitation in the configuration that they are actually used in the accused devices. For this reason, ZTE argues that Fractus does not have any credible evidence to support this limitation and that ZTE is entitled to summary judgment that the accused devices do not infringe the asserted claims of the '617 patent.

Fractus argues that this issue is not a question of law and must be decided by the trier of fact. Fractus asserts that its expert explained that they way the monopole

antenna test was performed is the way that a person in ordinary skill in the art would understand that the test must be performed under the construction of "monopole antenna." In addition, Fractus points to other evidence that these antennas are monopole antennas, which includes ZTE's own documentation of these antennas that describes them as being monopole antennas.

ZTE also asserts that it is entitled to summary judgment for 14 accused devices for which Fractus cannot prove meet the "overall structure" limitation of the asserted claims of the '432 patent and the '431 patent. This was a disputed claim phrase. The Court construed this claim to have its plain and ordinary meaning. Amended *Markman* Order (Doc. No. 159). ZTE asserts that Fractus' expert applied a plain and ordinary meaning to this phrase that was rejected by the Court during claim construction and is therefore an incorrect construction. According to ZTE, Fractus' expert asserted that the overall structure of the antenna only includes the portions of the antennas that radiate at one of three chosen frequency bands. According to ZTE, since this was the proposed construction offered by Fractus and the Court did not adopt that construction, Fractus' expert should not apply this meaning to the phrase. Therefore, Fractus does not have evidence to prove the overall structure limitation, and ZTE is entitled to summary judgment of non-infringement of the asserted claims that have the "overall structure" limitation.

Fractus argues that this is an issue of fact that prevents summary judgment. Fractus asserts that there is sufficient evidence provided by Fractus' expert that the

plain and ordinary meaning given to the phrase by Fractus' expert is the meaning that a person of ordinary skill in the art would apply to the phrase. Fractus also points out that the claims' reference to an overall structure is not to the overall structure of the antenna. Instead, the "overall structure" of claims is a reference to the overall structure of the radiating element of the antenna, and Fractus' expert provided testimony as to the overall structure of the radiating element of the antenna. For these reasons, Fractus asserts that ZTE is not entitled to summary judgment on this issue.

The final basis for summary judgment presented by ZTE in the Motion is that ZTE is entitled to summary judgment on the issue of infringement under the doctrine of equivalents because Fractus' expert failed to provide the evidence required to prove infringement under that doctrine.

Fractus responds that ZTE's assertion is incorrect because Fractus' expert provided evidence of infringement under the doctrine of equivalents. Fractus then points to various assertions and opinions offered by its expert that Fractus asserts is evidence of infringement under the doctrine of equivalents.

### **C. Legal Standards for Summary Judgment.**

Summary judgment is proper under Federal Rule of Civil Procedure 56 if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(a). A factual dispute is genuine if the evidence is sufficient that a reasonable trier of fact could return a verdict for the nonmoving party. *Crowe v. Henry*, 115 F.3d 294, 296 (5th Cir. 1997). If the



moving party seeks summary judgment as to an opponent's claims or defenses, the "moving party bears the initial burden of identifying those portions of the pleadings and discovery in the record that it believes demonstrate the absence of a genuine issue of material fact, but is not required to negate elements of the nonmoving party's case." *Lynch Props., Inc. v. Potomac Ins. Co.*, 140 F.3d 622, 625 (5th Cir. 1998). Once the moving party meets this burden, the non-moving party must set forth specific facts showing a genuine issue for trial. *Little v Liquid Air Corp.*, 37 F.3d 1069, 1075 (5th Cir. 1994) ( en banc). When a party bears the burden of proof of an essential element and that party fails to make a showing sufficient to establish the existence of the essential element there is no dispute of material fact regarding the essential element and it is proper to grant summary judgment against the party with the burden of proof. *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23, 106 S. Ct. 2548, 91 L. Ed. 2d 265 (1986).

#### **D. Legal Standards for Claim Construction.**

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995). The Federal Circuit has held that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). The Supreme Court has stated that the claims are "of primary importance, in the effort to ascertain precisely what it is that is patented." *Phillips*, 415 F.3d at 1312 (citing *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876)). A court looks to three primary sources when determining the meaning of claims: (1) the claims, (2) the specification, and (3) the prosecution history.

*Markman*, 52 F.3d at 979. The claims of the patent must be read in view of the specification of which they are a part. *Id.* The specification consists of a written description of the invention which allows a person of ordinary skill in the art to make and use the invention. *Id.* This description may act as a dictionary explaining the invention and defining terms used in the claims. *Id.* Although a court should generally give such terms their ordinary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, so long as the special definition of the term is clearly stated in the patent specification or file history. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

The court starts with the claim itself, read in light of the specification. *See Vivid Technologies, Inc. v. American Sci. & Eng'g, Inc.*, 200 F.3d 795, 804 (Fed. Cir. 1999). While the claims themselves provide significant guidance as to the meaning of a claim term, the specification is generally dispositive as “it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1314–1315. In addition to the claim language and specification, the prosecution history is often helpful in understanding the intended meaning, as well as the scope of technical terms in the claims. *See Vivid*, 200 F.3d at 804. In particular, the prosecution history is relevant in determining whether the patentee intends the language of the patent to be understood in its ordinary meaning. *Id.* Using these tools, the court construes only the claims that are in controversy and only to the extent necessary to resolve the dispute. *Id.* at 803.

The words of a claim are usually given their ordinary and customary meaning. *See Phillips*, 415 F.3d at 1312. Ordinary and customary meaning is the meaning the claim term would have to a person of ordinary skill in the art (e.g., field of the invention). *See id.* at 1313; *Markman*, 52 F.3d at 979. A person of ordinary skill in the art would read the claim term in the context of the entire patent, including the specification, not just the particular claim where the term appears. *Phillips*, 415 F.3d at 1313. There are instances where the ordinary meaning of claim language, as a person of skill in the art would understand it, “may be readily apparent even to lay judges,” thereby requiring “little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. In these situations, general purpose dictionaries are useful. *Id.*

Often, the court must determine the ordinary and customary meaning of the claim terms which have a certain meaning in a field of art. *Id.* The court can look to “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.” *Id.* These sources can include “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of the technical terms, and the state of the art.” *Id.* Aside from the written description and the prosecution history, the claims themselves also offer assistance as to the meaning of certain claim terms. *Id.*

When the intrinsic evidence, which is the patent specification and prosecution history, unambiguously describes the scope of a patented invention, reliance on extrinsic evidence, which is everything outside the specification and prosecution history, is improper. *See Vitronics*, 90 F.3d at 1583. While the Court may consult extrinsic evidence to educate itself about the invention and relevant technology, it may not rely upon extrinsic evidence to reach a claim construction that is clearly at odds with a construction mandated by the intrinsic evidence. *See Key Pharm. v. Hercon Lab. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998).

**E. Clarification of “polygons (polyhedrons) of the same type with the same number of sides (faces)”.**

The Court finds that a claim construction dispute exists between the parties as to the meaning of "polygons (polyhedrons) of the same type with the same number of sides (faces)." This phrase is part of the construction of "multilevel structure" and other related phrases that the parties agree should have the same construction as "multilevel structure." The dispute presented in claim construction briefing over the meaning of "multilevel structure" was a dispute that related to whether or not the polygons of the multilevel structure were distinguishable and whether "most" meant half or seventy-five percent. The parties' proposed constructions varied as to these disputed points, and the parties' briefing focused on the disputed portions of the construction. The portion that is at issue now was not presented as a disputed portion of the construction. It was presented as an agreed portion in which the parties proposed the exact same language

for this portion. For these reasons, the Court was not made aware that there was a dispute as to the meaning of "polygons (polyhedrons) of the same type with the same number of sides (faces)," and the Court did not further clarify the meaning of this construction beyond the agreed language.

It is apparent from the parties' summary judgment briefing on this issue that the parties dispute the meaning of "multilevel structure" and the "of the same type" portion of the construction of "multilevel structure." While the parties present this issue as a question of fact involving the application of the accused devices to the asserted claims under the Court's construction of those claims, the Court disagrees that this dispute is a question of fact. The meaning of this claim phrase and its construction is an issue of law to be decided by the Court. *Phillips*, 415 F.3d at 1314-1315. This is a question of law and of claim construction since it involves the question of what the language of the claims means to a person of ordinary skill in the art considering the appropriate intrinsic and extrinsic evidence. *Id.* For this reason, the Court hereby issues a clarification of the meaning of "multilevel structure" and the agreed "of the same type" portion of the construction of "multilevel structure."

While the parties agree that multilevel structures are made from polygons of the same type, the parties dispute what is meant by "of the same type." ZTE asserts that polygons are not determined to be of the same type based on the number of sides of the polygon. Under ZTE's meaning of "of the same type," the polygons should be classified in a more specific manner than by the number of sides. For example, squares

and rectangles should be considered two different types of polygons. Fractus asserts that "of the same type" is defined only by the number of sides of the polygon. Under this meaning, squares and rectangles would be of the same type.

In support of its argument that "of the same type" is more specific than having the same number of sides, ZTE argues that the specifications and figures of the patents support this conclusion. In particular, ZTE focuses on the examples of multilevel structures provided by Figures 3-6. These figures provide multiple examples of what the specification describes as multilevel structures. Each page provides examples in which all of the examples of that page have the same number of sides. In Figure 3, all examples are made from triangles. Some of these examples have triangles that vary only in size. Other examples have triangles that vary in what the Defendant refers to as the aspect ratio of the triangles, meaning that some of the lengths of the sides of triangles vary from the lengths of the sides of other triangles. In Figure 5 all the examples are made from five sided polygons, with most examples being made from polygons that vary in size but do not vary in aspect ratios. There are, however, some examples of five sided structures where the polygons vary in what the Defendant refers to as the aspect ratio of the polygon. In these examples, the same basic five-sided polygon is used, but some ratios between the lengths of the polygons are larger or smaller compared to the same ratios of the lengths of the sides of other polygons of the same antenna. Figures 4 and 6 contain similar examples for four and six-sided polygon based multilevel antennas. ZTE asserts that these examples support its meaning of "of the same type"

because all examples of Figure 3 contain only variations of triangles, all examples of Figure 4 contain either only squares, rectangles, or rhombi; all examples of Figure 5 contain only pentagons; and all examples of Figure 6 contain only hexagons. According to ZTE, the only variation between the polygons of each example is a variation in the "aspect ratio" of the shape or size. ZTE argues that this supports their meaning of "of the same type."

Fractus argues that "of the same type" refers only to polygons having the same number of sides and points to the example antennas provided in Figures 1 and 2 of the patents. The figures show a triangular antenna made from a collection of triangles. However, according to Fractus, the triangles used to form this example are not the same type of triangle, which is inconsistent with ZTE's understanding of "of the same type." There are at least equilateral triangles, scalene triangles, and right triangles in one example antenna. According to Fractus, ZTE's understanding of "of the same type" cannot be correct because it excludes the example of Figures 1 and 2.

Both parties also assert that the other party's meaning of "of the same type" is inconsistent with the remainder of the disputed phrase, which is "with the same number of sides." ZTE argues that Fractus' assertion that "of the same type" means having the same number of sides makes the second half of the phrase redundant with no meaning because the second half simply repeats that the polygons have the same number of sides. Fractus argues that ZTE's proposed meaning renders "with the same number of

sides" pointless because if the polygons are exactly the same except by size or aspect ratio the polygons will all have the same number of sides.

The Court agrees with Fractus that the patent does not contemplate limiting polygons of the same type to the specific type limitation argued by ZTE. The Court first notes that in geometry there are various levels of polygons that could be considered to be a "type" of polygon. For example, four sided structures are all quadrilaterals and five sided polygons are all pentagons. So, one level to type polygons at could be based on the number of sides. On the other hand, particular polygons having the same number of sides can be sorted or classified by type also. This is most clear in the case of four-sided polygons because many of the different types of four sided polygons have distinctly different names. For example, squares, rectangles, and rhombi are all types of the quadrilateral type of polygon. Therefore, simply describing polygons of "of the same type" is insufficient to specify what level of description of the polygons should be used to determine if they are the same type or not.

The Court also notes that the language that forms the basis of the dispute between the parties is not actually claim language. Instead, this is claim construction language that was agreed to by the parties. While, the claim language itself is normally one of the best sources to determine the meaning of the claims, this is not useful here because the claims do not include this disputed language. They simple include the original disputed phrases, which are "multilevel structure" and the related phrases that



the parties have agreed to give the same construction to as that of "multilevel structure." Therefore, the claim language is not useful in resolving this ambiguity.

The specifications and the figures, however, are useful in clarifying what types of polygons are allowed within a multilevel antenna, as a person of ordinary skill in the art would understand from the patent. The Court agrees that Figures 3-6 are instructive in understanding what level the same type requirement should be defined at. The Court disagrees that these figures support ZTE's meaning of "of the same type."

Figures 1-6 all provide examples of multilevel antennas. The example of the three-sided antenna in Figure 1 and Figure 2 provide examples of multilevel structures where the common feature between the polygons is limited to the number of sides. The examples however are not limited to antennas formed from the same exact type of triangles. For example, the antenna of Figure 1 has at least equilateral, isosceles, scalene, acute, and right triangles. These are clearly different types of triangles. This clearly shows that three sided polygons having different side lengths and different angles between the sides are still "of the same type." If this is allowable for three sided polygons, it is also allowable for other polygons such as four-sided polygons. In the case of variation of the side lengths and angles of intersections of the sides in a four-sided polygon, manipulating these lengths and angles would result in the creation of squares, rectangles, rhombi, etc., which would all be of the same type.

The Court is not persuaded by ZTE's argument that the examples of Figures 3-6 support ZTE's meaning of "of the same type." While ZTE is correct that many of the

examples are formed from all squares, rectangles, pentagons, etc., not all of the examples are so limited. Like the example of Figure 1, many of the triangle-based examples of Figure 3 contain different types of triangles within one multilevel antenna, such as examples 3.7, 3.8, 3.9, and 3.12. The same is true for the four, five, and six sided examples of Figures 4-6. Some examples are formed from polygons that do not vary at all or only vary in size, like examples 4.1, 4.6, 5.1, 5.6, 6.2, and 6.6. But other examples have four, five, or six sided figures that vary by more than their size, such as examples 4.9, 5.7, and 6.9. These examples show the use of four, five, or six sided polygons where there is a difference between the length and angles of the sides of one polygon compared to another polygon.

ZTE attempts to characterize the examples containing variations in the length of the sides of the polygons and the angles of the polygons as simply an allowed variation in the aspect ratio of the polygon. The Court is not persuaded by this argument. One of these examples is example 4.9, which has four rhombi, which are quadrilaterals having four equal sides. These all have the particular shape of a rhombus, but some rhombi are taller than others, which results in different side lengths and angles among the polygons. ZTE classifies these as changes in the aspect ratio as still being allowed in its understanding of "of the same type." This is inconsistent with ZTE's assertion that squares and rectangles are not the same type of polygon. Adjusting the aspect ratio of a square by adjusting the length of two parallel sides of the square results in making a rectangle. Likewise, adjusting the angles of intersection of a square results

in making a rhombus. In defining the meaning of "of the same type" this must either allow for changes in the aspect ratio or not allow for changes in the aspect ratio, but cannot include both. ZTE's understanding, which defines the rhombi polygons of example 4.9 as being the same type by allowing adjustments in aspect ratio, does not allow for adjustment of the aspect ratio of squares so that a square and a rectangle can be the same type is internally inconsistent. It is also inconsistent with the specific examples provided by the patent.

ZTE's proposed meaning is also unclear because it fails to take into account the overlap between its proposed types of polygons. A rhombus is a four-sided polygon in which all four sides are the same length, but the angles of intersection of the sides does not have to be  $90^\circ$ . A square is a four-sided polygon in which all the sides have the same length and the angle of intersection between the sides is  $90^\circ$ . Since a square has four equal length sides, a square is also a rhombus. So, under ZTE's meaning of "of the same type" it is unclear if squares and rhombi are of the same type, since they are all the rhombus "type." The same is true for other examples of overlap between "types" of polygons such as that between a square and rectangle. ZTE's proposed meaning of "of the same type" fails to make this distinction.

In contrast, the one consistency between all the examples provided by Figures 1-6 of the patents in suit is that each depicted multilevel antenna is formed from polygons having the same number of sides, which is Fractus' understanding of the meaning of "of the same type."

In addition, the specifications' discussion of the meaning of "of the same type" is consistent with a construction that defines "of the same type" by the number of sides of a polygon or the number of faces of a polyhedron. For example, the specification of the '432 patent states "A multilevel structure is characterized in that it is formed by gathering several polygon or polyhedron of the same type (for example triangles, parallelepipeds, pentagons, hexagons, etc. ..." '432 Patent, 4:53-56. It also states that "In a multilevel structure all the component elements are polygons with the same number of sides or polyhedron with the same number of faces." *Id.* at 4:8-11. These descriptions of what is meant by "of the same type" all equate the number or sides of a polygon or the number of faces of a polyhedron to the meaning of "of the same type." They do not further limit "of the same type" to more specific classifications of polygons or polyhedrons, such as a distinction between squares and rectangles, like ZTE does in their proposed meaning of "of the same type."

Both parties assert that the other party's understanding of "of the same type" is in conflict with the remainder of the disputed portion of the agreed construction, which is "having the same number of sides." The Court agrees that neither meaning of "of the same type" is consistent with "having the same number of sides." Under both meanings, the phrase as written appears redundant because Fractus' meaning of "of the same type" is that the polygons have the same number of sides and under ZTE's meaning which requires that all squares, all rectangles, all rhombi, etc. all of the polygons would already have the same number of sides. This language is not original claim language. It an

agreed part of a construction provided by the parties during briefing on the meaning of claim terms. Therefore, there is no reason that prevents the Court from modifying this language to address this ambiguity in claim construction language proposed by both parties, and doing so prevents a jury from being confused as to the meaning of "multilevel structure" and the Court's construction of this phrase.

So, since the patents' description is consistent with making multilevel antennas from polygons of the same type where the same type means that the polygons all have the same number of sides and is inconsistent with limiting "of the same type" to the narrow level of specification provided by ZTE, the Court hereby modifies the "polygons (polyhedrons) of the same type with the same number of sides (faces)" portion of the construction of "multilevel structure" and the claim phrases that the parties have already agreed should have the same meaning of "multilevel structure" to "polygons (polyhedrons) of the same type, polygons of the same type must have the same number of sides but may vary in other aspects such as the length of the sides and the angles between the sides."

**F. Analysis of ZTE's Summary Judgment Argument Related To The Meaning Of "polygons (polyhedrons) of the same type with the same number of sides (faces)".**

ZTE's argument that it is entitled to summary judgment on the issue of non-infringement for 56 accused devices is premised on ZTE's meaning of "polygons (polyhedrons) of the same type with the same number of sides (faces)." The Court has construed the meaning of this language to be inconsistent with ZTE's meaning of this

phrase and consistent with Fractus' meaning of the phrase and the infringement evidence provided by Fractus' expert. Fractus' expert provides ample evidence that the accused devices meet this limitation under the Court's clarified construction of "multilevel structure." For these reasons, the Court denies ZTE's Motion for summary judgment as to this issue.

#### **G. Analysis of Other Grounds for Summary Judgment.**

Regarding ZTE's assertion that Fractus' expert misapplied the constructions of "monopole antenna," "geometric element," "polygon," and "overall structure" and ZTE's assertion that Fractus failed to provide evidence of infringement under the doctrine of equivalents, the Court finds that each of these assertions raise issues of fact that prevent summary judgment on the issue of non-infringement. For this reason, the Court denies the Motion on all of these issues.

### **G. Conclusion**

The Court clarifies the meaning of "polygons (polyhedrons) of the same type with the same number of sides (faces)" and replaces this portion of the construction of "multilevel structure" with "polygons (polyhedrons) of the same type, polygons of the same type must have the same number of sides but may vary in other aspects such as the length of the sides and the angles between the sides."

The Court DENIES the Summary Judgment and all relief requested in the Motion.

**SO ORDERED.**

Signed October 16<sup>th</sup>, 2019.

  
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UNITED STATES DISTRICT JUDGE